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Sectoral Change as Structural Transformation: „A Change is Gonna Come“ An Analysis of the German System of Electricity Supply

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Research Question

How did the process of the transformation of the German system of electricity supply unfold?

Theoretical Orientation

Field theory and relational sociology as developed e.g. by

Harrison White, Neil Fligstein, Doug McAdam, Walter W. Powell, John F. Padgett, John Levi Martin

Social Structure of Fields

- Challenger and incumbent actors
- Usage of certain mechanisms to stabilize or destabilize existing structures.
- Transformation as institutional change.

Contention and the Germany System of Electricity Generation

- Which types of energy resources shall be used: nuclear/fossil or renewables?
- How should the architecture of a future system of electricity generation look like?

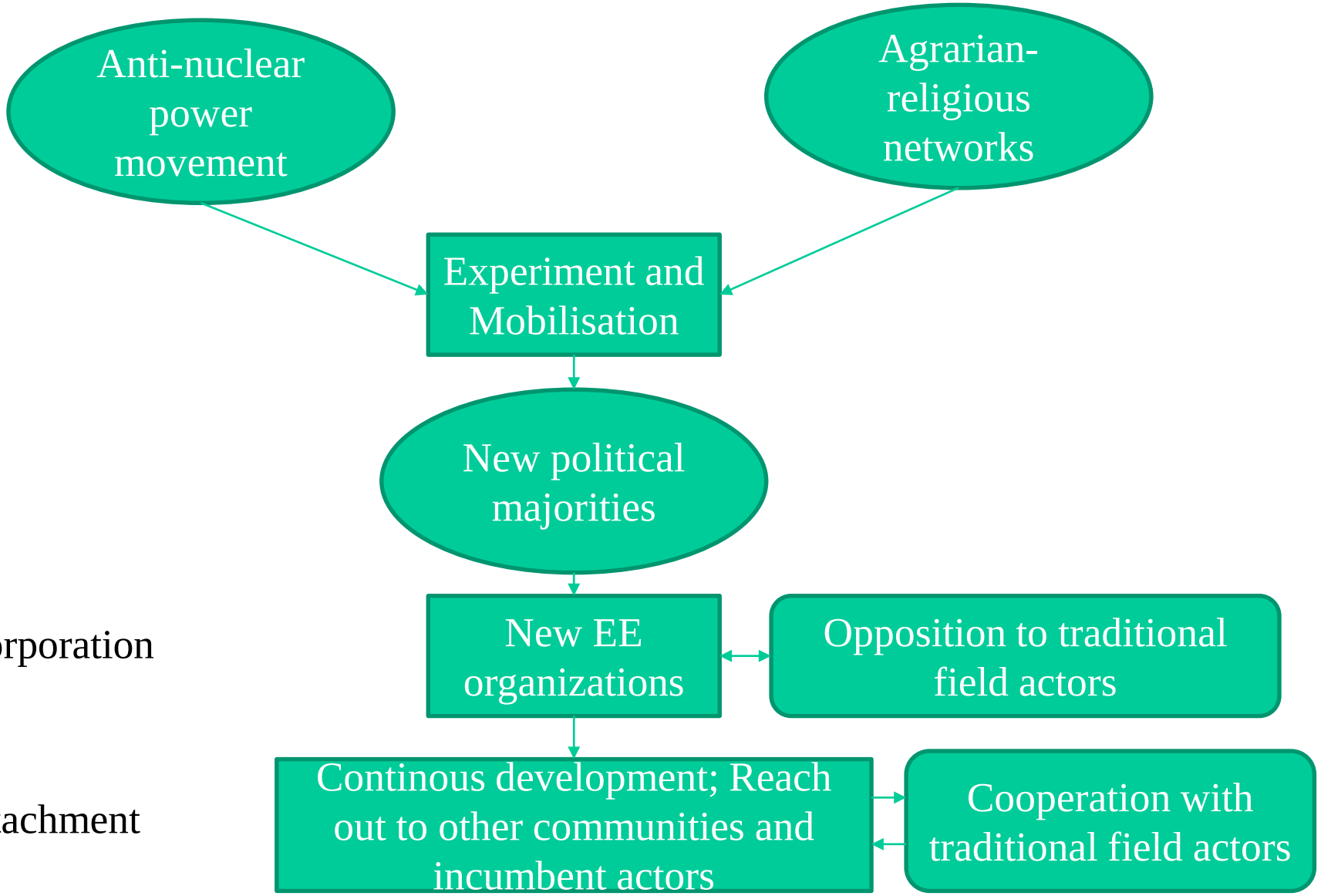
Phase one: The Fossil Trajectory and the Construction of Niches (1980s until 1998)

- Opportunity Structures: Anti-Nuclear Power Movement, Environmental Movements, Chernobyl
- Incumbents: Institutional resilience, growth on the established trajectory, strong political support, asset specificity of equipment
- Challengers: cognitive liberation, new viable technologies, local coalitions, building niches
- Regulatory development: First feed-in regulation, Energiewirtschaftsgesetz
- Conflicts: juridicial conflicts, open resistance, lobbying, public relations campaigns

Mechanism of Transformation: Incorporation and Detachment

“ This mechanism involves the insertion or cooptation of a chunk of one network into another, at first without detaching from the original network. A hybridized organization forms in the overlap, which eventually detaches to find new networks.”

(Powell/Padgett 2012)


Anti-nuclear power movement
Agrarian-religious networks
Experiment and Mobilisation
New political majorities
Incorporation
New EE organizations
Opposition to traditional field actors
Detachment
Continous development; Reach out to other communities and incumbent actors
Cooperation with traditional field actors

Phase two: Institutional Layering (1998 – 2008)

- Opportunity structure: liberalization of the electricity sector, change in power constellations at federal level
- Incumbents: cognitive liberalization, mergers and acquisitions, domestically as well as internationally, continuous growth, strengthening centralization, no RETs
- Challengers: new regulatory framework enables unexpected dynamic growth, industry and support infrastructure develops, big employment gains, „Success story“ finds many imitators, broad scale mobilization
- Regulatory innovations: EEG, liberalization, Atom-treaty
- Conflicts: Nuclear phase out compromise, two separate fields

Mechanism of Transformation: Robust Action and Multivocality

"Robust action occurs when a central broker bridges two segregated blocs of supporters through distinct networks. The broker's interests and identity are ambiguous not in the sense of being vague, but in the sense that audiences attribute different identities to the broker."

(Padgett/Powell 2012)

Expanding Logics of Organization

	Ecological logic	Economic logic
Framing	RETs as an alternative to nuclear energy	RETs as an option for the (re)vitalization of local economic activities
Relations to neighboring fields	Confrontation with incumbent politicians and industry	Cooperation with established politicians, bargaining with incumbent energy providers
Dominant organizational principle	Common good	Corporate good
Mobilization	Concerned citizens and scientists	Professionalised organization
Verhalten gegenüber Mitgliedern	Community	Service orientation
Definition of success	New decentralized architectures for electricity generation	Profit, economic viability

Renewables Ownership Structure (Germany 2012)

ACTOR CATEGORIES	Percentage
Private persons	35%
Business	14%
Project management companies	14%
Investment Fonds/Banks	13%
Farmers	11%
Other Energy Providers	7%
Big 4	5%

Energy Co-Operatives in Germany

2001	66
2006	86
2008	144
2010	392
2012	586
2015	772

Phase Three: Contention (2008-2012)

- Opportunity structures: developments on global markets, Fukushima
- Incumbents: growth strategy falters nationally as well as internationally, nuclear phase out, closure of power stations
- Challengers: RET-industry falters, since 2009 official policy aims to stem the developmen of RETs, support coalition crumbles
- Regulatory developments: EEG stays alive as unloved compromise
- Conflicts: RETs in a centralized architecture, social costs of RETs

Mechanism of Transformation: Conflict Displacement

„Conflict displacement is a shift in the primary axis of political conflict from one domain to another. In other words, provoking conflict on one axis in order to weaken resistance on another.“

(Powell/Padgett 2012)

Phase Four: Conversion

- Opportunity structures: grand coalition
- Incumbents: re-organization, capacity markets, assurances for existing power plants
- Challengers: largely dis-organized, buildig new local coalitions
- Regulatory developments: EEG-reorientation, „market“-type instruments, upper limits for new RET installations
- Conflicts: regulatory measures effectively slow the pace of RET development, former challenger actor groups under pressure

Mechanism of Transformation: Transposition and Refunctionality

„Is the movement of a relational practice from one domain to another, and its re-use for a different function or purpose in the new domain.”

(Padgett/Powell 2012)

Summary

- Systemic or field transformation is about, whether non-routine flows of rules and people across domains can find enough connective tissue in their local network contexts to reproduce in the face of strong selection pressures to the contrary.
- No planned or guided transformation, unanticipated consequences and unforseen incidents loom large